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File: USPT

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TITLE: Nucleic acids internally-derivatized with a texaphyrin metal complex and uses thereof

Drawing Description Text (37):

Hydrolytic cleavage of phosphate ester bonds of RNA texaphyrin complexes may be enhanced by additional catalytic groups appended to the texaphyrin complex or to a texaphyrin complex-oligonucleotide or -oligonucleotide analog conjugate. The term "catalytic group" means a chemical functional group that assists catalysis by acting as a general acid, Br.o slashed.nsted acid, general base, Br.o slashed.nsted base, nucleophile, or any other means by which the activation barrier to reaction is lowered or the ground state energy of the substrate is increased. Exemplary catalytic groups contemplated include, but are not limited to, imidazole; guanidine; substituted saccharides such as D-glucosamine, D-mannosamine, D-galactosamine, D-glucamine and the like; amino acids such as L-histidine and L-arginine; derivatives of amino acids such as histamine; polymers of amino acids such as poly-L-lysine, (LysAla).sub.n, (LysLeuAla).sub.n where n is from 1-30 or preferably 1-10 or more preferably 2-7 and the like; derivatives thereof; and texaphyrin metal complexes. The term "appended to the texaphyrin complex or conjugate" means that the catalytic groups are attached either directly to the texaphyrin metal complex or to the texaphyrin complex via a linker or couple of variable length, or are attached to an oligonucleotide or oligonucleotide analog portion of a conjugate either with or without a linker or couple of variable length.